This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A computer-implemented method
2 for determining user profile information for a user, the
3 computer-implemented method comprising:
4   a)   determining initial user profile information for
5   the user using information included in past search
6   queries submitted to a search engine by the user,
7   wherein such information is independent of documents
8   returned as search results to the past search queries;
9   b)   inferring user profile information for the user;
10   and
11   c)   determining the user profile information for the
12   user using both the initial user profile information
13   and the inferred user profile information; and
14   d)   controlling the serving of an advertisement to the
15   user using the determined user profile information.

Claim 2 (canceled)

1 Claim 3 (previously presented): The computer-implemented
2 method of claim 1 wherein the act of determining an initial
3 user profile information for the user further uses past
4 document selections by the user.

Claim 4 (canceled)

1 Claim 5 (previously presented): The computer-implemented
2 method of claim 1 wherein the initial user profile includes
3 a plurality of attributes, each of the plurality of
4 attributes having a value and a score.

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1 Claim 6 (previously presented): The computer-implemented
2 method of claim 5 wherein the score indicates a likelihood
3 that the value of the attribute is correct.

1 Claim 7 (currently amended): A computer-implemented method
2 for determining user profile information for a user, the
3 computer-implemented method comprising:
4   a) determining initial user profile information for
5   the user;
6   b) inferring user profile information for the user;
7   ~~and~~
8   c) determining the user profile information for the
9   user using both the initial user profile information
10   and the inferred user profile information; and
11   d) controlling the serving of an advertisement to the
12   user using the determined user profile information,
13   wherein the act of inferring user profile
14 information for the user includes
15   i) defining a node for each of a number of
16   documents and the user, wherein each node
17   represents a particular one of the number of
18   documents or the user,
19   ii) adding edges between nodes if there is an
20   association between the nodes to define a graph,
21   wherein there is an association between at least
22   two of the nodes, and
23   iii) inferring user profile information for the
24   user using a topology of the graph and user
25   profile information of other documents.

3

1 Claim 8 (currently amended): The computer-implemented
2 method of claim 7 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node was returned in a search results page to a search
5 query from the user corresponding to the second node, and
6 wherein at least one document corresponding to the first
7 node was returned in a search results page to a search
8 query from the user corresponding to the second node.

1 Claim 9 (currently amended): The computer-implemented
2 method of claim 7 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node was selected by the user corresponding to the second
5 node, and wherein at least one document corresponding to
6 the first node was selected by the user corresponding to
7 the second node.

1 Claim 10 (currently amended): The computer-implemented
2 method of claim 7 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node is linked with a document corresponding to the second
5 node, and wherein at least one document corresponding to
6 the first node is linked with at least one document
7 corresponding to the second node.

1 Claim 11 (currently amended): The computer-implemented
2 method of claim 7 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node was visited by a set of users that have visited
5 another document corresponding to the second node, and
6 wherein at least one document corresponding to the first

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7 node was visited by a set of users that have visited at

8 least one other document corresponding to the second node.

1 Claim 12 (currently amended): The computer-implemented

2 method of claim 7 wherein an edge is added between first

3 and second nodes if a user corresponding to the first node

4 visited a set of one or more documents also visited by

5 another user corresponding to the second node, and wherein

6 the user corresponding to the first node visited a set of

7 one or more documents also visited by the other user

8 corresponding to the second node.

1 Claim 13 (previously presented): The computer-implemented

2 method of claim 7 wherein the act of inferring user profile

3 information for the user using a topology of the graph

4 includes

5   i) multiplying the initial user profile

6   information of the user by a first value to

7   generate a first product;

8   ii) multiplying user profile information of

9   neighboring graph nodes by a second value to

10   generate a second product; and

11   iii) adding the first product and the second

12   product.

1 Claim 14 (currently amended): A computer-implemented

2 method for determining user profile information for a

3 document, the computer-implemented method comprising:

4   a) determining initial user profile information for

5   the document;

6   b) inferring user profile information for the

7   document;

5

8 c) determining the user profile information for the

9 document using both the initial user profile

10 information and the inferred user profile information;

11 d) associating with the document, the determined user

12 profile information for the document; ~~and~~

13 e) storing the association of the document with the

14 determined user profile information for the document<u>;</u>

15 <u>and</u>

16 <u>f) controlling the serving of an advertisement with</u>

17 <u>the document using the determined user profile</u>

18 <u>information for the document stored in association</u>

19 <u>with the document</u>.

1 Claim 15 (previously presented): The computer-implemented

2 method of claim 14 wherein the act of determining an

3 initial user profile information for the document uses

4 content information from the document.

1 Claim 16 (previously presented): The computer-implemented

2 method of claim 14 wherein the act of determining initial

3 user profile information for the document uses document

4 meta information.

1 Claim 17 (previously presented): The computer-implemented

2 method of claim 14 wherein the act of determining initial

3 user profile information for the document uses (i) content

4 information from the document, and (ii) document meta

5 information.

1 Claim 18 (previously presented): The computer-implemented

2 method of claim 14 wherein the initial user profile

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3   information includes a plurality of attributes, each of the

4   plurality of attributes having a value and a score.

1   Claim 19 (previously presented): The computer-implemented

2   method of claim 18 wherein the score indicates a likelihood

3   that the value of the attribute is correct.

1   Claim 20 (currently amended): The computer-implemented

2   method of claim 14 wherein the act of inferring user

3   profile information for the document includes

4   i)   defining a node for each of a number of

5   documents and for each of a number of users,

6   wherein each node represents a particular one of

7   the number of documents or a particular one of

8   the number of users,

9   ii) adding edges between nodes if there is an

10   association between the nodes to define a graph,

11   wherein there is an association between at least

12   two of the nodes, and

13   iii) inferring user profile information for the

14   document using a topology of the graph and user

15   profile information of users and of other

16   documents.

1   Claim 21 (currently amended): The computer-implemented

2   method of claim 20 wherein an edge is added between first

3   and second nodes if a document corresponding to the first

4   node was returned in a search results page to a search

5   query from the user corresponding to the second node, and

6   wherein at least one document corresponding to the first

7   node was returned in a search results page to a search

8   query from the user corresponding to the second node.

7

1 Claim 22 (currently amended): The computer-implemented
2 method of claim 20 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node was selected by the user corresponding to the second
5 node, and wherein at least one document corresponding to
6 the first node was selected by the user corresponding to
7 the second node.

1 Claim 23 (currently amended): The computer-implemented
2 method of claim 20 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node is linked with a document corresponding to the second
5 node, and wherein at least one document corresponding to
6 the first node is linked with at least one document
7 corresponding to the second node.

1 Claim 24 (currently amended): The computer-implemented
2 method of claim 20 wherein an edge is added between first
3 and second nodes if a document corresponding to the first
4 node was visited by a set of users that have visited
5 another document corresponding to the second node, and
6 wherein at least one document corresponding to the first
7 node was visited by a set of users that have visited at
8 least one other document corresponding to the second node.

1 Claim 25 (currently amended): The computer-implemented
2 method of claim 20 wherein an edge is added between first
3 and second nodes if a user corresponding to the first node
4 visited a set of one or more documents also visited by
5 another user corresponding to the second node, and wherein
6 the user corresponding to the first node visited a set of

8

7 one or more documents also visited by the other user
8 corresponding to the second node.

1 Claim 26 (previously presented): The computer-implemented
2 method of claim 20 wherein the act of inferring user
3 profile information for the document using a topology of
4 the graph includes
5   i)   multiplying the initial user profile
6   information of the document by a first value to
7   generate a first product;
8   ii) multiplying user profile information of
9   neighboring graph nodes by a second value to
10   generate a second product; and
11   iii) adding the first product and the second
12   product.

Claims 27-32(canceled)

1 Claim 33 (currently amended): Apparatus for determining
2 user profile information for a user, the apparatus
3 comprising:
4   a)   means for determining initial user profile
5   information for the user using information included in
6   past search queries submitted by the user, wherein
7   such information is independent of documents returned
8   as search results to the past search queries;
9   b)   means for inferring user profile information for
10   the user; and
11   c)   means for determining the user profile information
12   for the user using both the initial user profile
13   information and the inferred user profile information;
14   and

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15   d) means for controlling the serving of an
16   advertisement to the user using the determined user
17   profile information.

Claim 34 (canceled)

1 Claim 35 (previously presented): The apparatus of claim 33
2 wherein the means for determining an initial user profile
3 information for the user further use past document
4 selections by the user.

Claim 36 (canceled)

1 Claim 37 (original): The apparatus of claim 33 wherein the
2 initial user profile includes a plurality of attributes,
3 each of the plurality of attributes having a value and a
4 score.

1 Claim 38 (original): The apparatus of claim 37 wherein the
2 score indicates a likelihood that the value of the
3 attribute is correct.

1 Claim 39 (currently amended): Apparatus for determining
2 user profile information for a user, the apparatus
3 comprising:
4   a) means for determining initial user profile
5   information for the user;
6   b) means for inferring user profile information for
7   the user; and
8   c) means for determining the user profile information
9   for the user using both the initial user profile

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10   information and the inferred user profile information;

11   and

12   d)   means for controlling the serving of an

13   advertisement to the user using the determined user

14   profile information,

15   wherein the means for inferring user profile

16 information for the user include means for

17   i)   defining a node for each of a number of

18   documents and the user, wherein each node

19   represents a particular one of the number of

20   documents or the user,

21   ii)   adding edges between nodes if there is an

22   association between the nodes to define a graph,

23   wherein there is an association between at least

24   two of the nodes, and

25   iii)   inferring user profile information for the

26   user using a topology of the graph and user

27   profile information of other documents.

1 Claim 40 (currently amended): The apparatus of claim 39

2 wherein the means for adding edges adds an edge between

3 first and second nodes if a document corresponding to the

4 first node was returned in a search results page to a

5 search query from the user corresponding to the second

6 node, and wherein at least one document corresponding to

7 the first node was returned in a search results page to a

8 search query from the user corresponding to the second

9 node.

1 Claim 41 (currently amended): The apparatus of claim 39

2 wherein the means for adding edges adds an edge between

3 first and second nodes if a document corresponding to the

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4   first node was selected by the user corresponding to the

5   second node, and wherein at least one document

6   corresponding to the first node was selected by the user

7   corresponding to the second node.

1   Claim 42 (currently amended): The apparatus of claim 39

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a document corresponding to the

4   first node is linked with a document corresponding to the

5   second node, and wherein at least one document

6   corresponding to the first node is linked with at least one

7   document corresponding to the second node.

1   Claim 43 (currently amended): The apparatus of claim 39

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a document corresponding to the

4   first node was visited by a set of users that have visited

5   another document corresponding to the second node, and

6   wherein at least one document corresponding to the first

7   node was visited by a set of users that have visited at

8   least one other document corresponding to the second node.

1   Claim 44 (currently amended): The apparatus of claim 39

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a user corresponding to the first

4   node visited a set of one or more documents also visited by

5   another user corresponding to the second node, and wherein

6   the user corresponding to the first node visited a set of

7   one or more documents also visited by the other user

8   corresponding to the second node.

12

1 Claim 45 (original): The apparatus of claim 39 wherein the
2 means for inferring user profile information for the user
3 using a topology of the graph include means for
4   i) multiplying the initial user profile
5   information of the user by a first value to
6   generate a first product;
7   ii) multiplying user profile information of
8   neighboring graph nodes by a second value to
9   generate a second product; and
10   iii) adding the first product and the second
11   product.

1 Claim 46 (currently amended): Apparatus for determining
2 user profile information for a document, the apparatus
3 comprising:
4   a) means for determining initial user profile
5   information for the document;
6   b) means for inferring user profile information for
7   the document;
8   c) means for determining the user profile information
9   for the document using both the initial user profile
10   information and the inferred user profile information;
11   d) means for associating with the document, the
12   determined user profile information for the document;
13   ~~and~~
14   e) means for storing the association of the document
15   with the determined user profile information for the
16   document; and
17   <u>f) means for controlling the serving of an</u>
18   <u>advertisement with the document using the determined</u>
19   <u>user profile information for the document stored in</u>
20   <u>association with the document.</u>

13

1   Claim 47 (original):   The apparatus of claim 46 wherein the
2   means for determining an initial user profile information
3   for the document use content information from the document.

1   Claim 48 (original):   The apparatus of claim 46 wherein the
2   means for determining initial user profile information for
3   the document use document meta information.

1   Claim 49 (original):   The apparatus of claim 46 wherein the
2   means for determining initial user profile information for
3   the document use (i) content information from the document,
4   and (ii) document meta information.

1   Claim 50 (original):   The apparatus of claim 46 wherein the
2   initial user profile information includes a plurality of
3   attributes, each of the plurality of attributes having a
4   value and a score.

1   Claim 51 (original):   The apparatus of claim 50 wherein the
2   score indicates a likelihood that the value of the
3   attribute is correct.

1   Claim 52 (currently amended):   The apparatus of claim 46
2   wherein the means for inferring user profile information
3   for the document include means for
4   i)   defining a node for each of a number of
5   documents and for each of a number of users,
6   ii) adding edges between nodes if there is an
7   association between the nodes to define a graph,
8   wherein there is an association between at least
9   two of the nodes, and

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10   iii)   inferring user profile information for the

11   document using a topology of the graph and user

12   profile information of users and of other

13   documents.

1   Claim 53 (currently amended): The apparatus of claim 52

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a document corresponding to the

4   first node was returned in a search results page to a

5   search query from the user corresponding to the second

6   node, and wherein at least one document corresponding to

7   the first node was returned in a search results page to a

8   search query from the user corresponding to the second

9   node.

1   Claim 54 (currently amended): The apparatus of claim 52

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a document corresponding to the

4   first node was selected by the user corresponding to the

5   second node, and wherein at least one document

6   corresponding to the first node was selected by the user

7   corresponding to the second node.

1   Claim 55 (currently amended): The apparatus of claim 52

2   wherein the means for adding edges adds an edge between

3   first and second nodes if a document corresponding to the

4   first node is linked with a document corresponding to the

5   second node, and wherein at least one document

6   corresponding to the first node is linked with at least one

7   document corresponding to the second node.

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Claim 56 (currently amended): The apparatus of claim 52
wherein the means for adding edges adds an edge between
first and second nodes if a document corresponding to the
first node was visited by a set of users that have visited
another document corresponding to the second node, and
wherein at least one document corresponding to the first
node was visited by a set of users that have visited at
least one other document corresponding to the second node.

Claim 57 (currently amended): The apparatus of claim 52
wherein the means for adding edges adds an edge between
first and second nodes if a user corresponding to the first
node visited a set of one or more documents also visited by
another user corresponding to the second node, and wherein
the user corresponding to the first node visited a set of
one or more documents also visited by the other user
corresponding to the second node.

Claim 58 (original): The apparatus of claim 52 wherein the
means for inferring user profile information for the
document using a topology of the graph include means for
        i) multiplying the initial user profile
        information of the document by a first value to
        generate a first product;
        ii) multiplying user profile information of
        neighboring graph nodes by a second value to
        generate a second product; and
        iii) adding the first product and the second
        product.

Claims 59-64 (canceled)

16

1   Claim 65 (previously presented): The computer-implemented

2   method of claim 14 wherein the determined user profile

3   information is associated with the document, not with a

4   user.

1   Claim 66 (previously presented): The apparatus of claim 46

2   wherein the determined user profile information is

3   associated with the document, not with a user.

Claims 67-76(canceled)

17